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Huang 13-12-6

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EXAMINER

NGO, NGUYEN HOANG

ART UNIT

PAPER NUMBER

2473

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/046,749	<b>Applicant(s)</b> HUANG ET AL.	
	<b>Examiner</b> NGUYEN NGO	<b>Art Unit</b> 2473	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 33-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 33-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

This communication is in response to the amendment of 11/12/2009. All changes made to the Claims have been entered. Accordingly, Claims 33-68 are currently pending in the application.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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3. Claims 33, 35, 37, 41, 42, 45, 48, 49, 51, 53, 57-58, 61, 64, 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindoff (US 6853681), in view of Lai et al. (US2002/0075947), in view of Monk (US 7499397).

**Regarding claim 33, 49, 67,** Lindoff discloses a network device for a communication network (digital telecommunication receiver, abstract and figures 1 and 2), the network device comprising:

(a) a database table (detection parameter table (col3 lines 30-40) adapted to:

(1) store one or more sets of one or more parameters, each set corresponding to a different identifier (for each training sequence (identifier), there is one entry in the table that represents a detection parameter set, col5 lines 60-col6 lines 4); and

(b) a receiver (Rx as seen in figures 1 and 2) adapted to:

(1) receive a first data packet from the first transmitter (data reception of messages, col6 lines 25-30), the first data packet comprising a header and a payload (which is a concept well known in the art);

(4) retrieve the first set of one or more parameters from the database table based on the first identifier (upon determining the training sequence being used, for configuring the receiver assembly. The detection parameter set, may be selected from a table of detection parameter sets, col8 lines 22-35);

(5) process at least a portion of the first data packet based on the first set of one or more parameters (processing of the received signal, col2 lines 49-53 and col9 lines 30-50);

Lindoff however fails to specifically disclose the specific details a first data packet comprising a training preamble, and of receiving a first auxiliary coding which identifies a first identifier and that the auxiliary coding and the first identifier is different from the training preamble. Lindoff however discloses that receivers generally process a received signal using a training sequence and that the training sequence is a pre defined digital string which is sent along with the data transmissions (col1 lines 50-55). In a similar field of endeavor, Lai discloses that each packet transmitted by each station includes a preamble and includes data after the preamble (training preamble, page 1 [0005]). As discussed above, it is well known in the art that data packets incorporate a header and payload so that communication may take place between nodes. Lai further discloses;

the first auxiliary coding/first identifier is different from the training preamble (preamble includes a training sequence to provide corrections (equalizers) represented by the signals, page 2 [0015] and [0020] and figures 2 and 4). It is thus clear that training preambles comprises training sequences as well as other control data thus the training sequence is different from the training preamble.

It would have thus been obvious to a person skilled in the art to have the a training sequence (first identifier/auxiliary coding) be different from the training preamble as disclosed by Lai, in to the method of configuring a receiver with the selected parameter set to receive data transmissions, as disclosed by Lindoff, so that other information may be sent inside a training preamble, besides a training sequence, so that resources may be efficiently used.

The combination of Lindoff and Lai further fails to specifically disclose the concept of having a first auxiliary coding which identifies a first identifier (training sequence). As stated above, Lindoff discloses that receivers generally process a received signal using a training sequence and that the training sequence is a pre defined digital string which is sent along with the data transmissions (col1 lines 50-55). In a similar field of endeavor, Monk discloses that training sequences are encoded (col9 lines 49-65 and col12 lines 29-35). Thus it should be obvious to a person skilled the art to have a training sequence (first identifier) be encoded (thus correlating to auxiliary coding) as disclosed by Monk, into the method of configuring a receiver with the selected parameter set to receive data transmissions through training sequences, as disclosed by Lindoff and Lai, so that the training sequence may be efficiently transferred from transmitter to receiver and that resources may be efficiently used. It should further be obvious that the receiver recovers (decodes) the training sequence (first identifier) from the encoded training sequence (auxiliary coding) so that the receiver my properly determine the training sequence need in selecting parameters.

**Regarding claim 35, 51,** Lai discloses wherein:

the first auxiliary coding is inserted within the training preamble of the first data packet (figure 2).

**Regarding claim 37, 53,** Lai discloses wherein the first auxiliary coding is received before the first data packet is received (preamble is transmitted before the payload so that system knows the type of modulation for the data, page 2 [0016] and figure 4).

**Regarding claims 41, 42, 57, 58,** the combination of Lindoff and Haartsen fails to specifically disclose wherein the first auxiliary coding comprises five or fewer symbols/ five or fewer bits. However it would have been obvious to use 5 or fewer symbols/bits to efficiently use bandwidth and resources of the channel and efficiently use the given bits of the header/preamble field. It should further be noted that this is simply a network parameter.

**Regarding claim 45, 61,** Lindoff discloses wherein the first set of one or more parameters comprises at least one of a receiving-equalizer start value, a timing-recovery start value, an automatic-gain-controller start value, and an echo-canceller start value (col5 lines 35-51).

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**Regarding claim 48, 64**, Lindoff discloses wherein the database table is further adapted to store the first identifier corresponding to each set of one or more parameters (col5 lines 60-col6 line6).

4. Claims 34, 50, 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindoff (US 6853681), in view of Lai et al. (US2002/0075947), in view of Monk (US 7499397), in view of Moore, JR. (US 2003/0039242).

**Regarding claim 34, 50, 68**, the combination of Lindoff, Lai, and Monk fails to specifically disclose the system/network be a HomePNA network. Lindoff however discloses of using such systems as GSM and EDGE systems. Moore further discloses mobile handsets which incorporates the use of GSM and EDGE (page 2 [0020]) may further incorporate networks such as HPNA networks (page 2 [0023]). It would have thus been obvious to a person skilled in the art to incorporate the use of HPNA networks as disclosed by Moore into the method and system of configuring a receiver with the selected parameter set to receive data transmissions, as disclosed by Lindoff, so that receivers may be configured in a plurality of networks and thus having a more robust system.

5. Claims 36, 52, 47, 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindoff (US 6853681), in view of Lai et al. (US2002/0075947), in view of Monk (US 7499397), in view of Haartsen (US 20020131486).



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**Regarding claim 36, 52, 47, 63,** the combination of Lindoff, Lai, and Monk fails to disclose the specific limitations of claims 36. Monk however discloses of modulating training sequences in either the BPSK or QPSK modulation schemes (col9 lines 49-67). In a similar fiend of endeavor, Haartsen discloses wherein:

the first auxiliary coding is encoded at a frequency different from a frequency for the first data packet (the header is modulated using a robust modulation scheme that is different from the modulation scheme of the payload and the first identifier is encoded in a first set of pulses by varying timing intervals between pulses, page 3 [0036])

receipt of the first auxiliary coding overlaps in time with receipt of the training preamble of the first data packet (page 4 [0040]).

Haartsen however fails to specifically disclose the first auxiliary coding is encoded using frequency shift keying (FSK) modulation by frequency division. Monk however discloses of using QPSK and BPSK (page 3 [0034]) as modulation schemes. It is well known in the art that FSK is another modulation scheme known in the art and thus it would have been obvious to use FSK instead of BPSK/QPSK as disclosed by Monk in order to have a more robust system.

6. Claims 38, 43, 44, 54, 59, 60, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindoff (US 6853681), in view of Lai et al. (US2002/0075947), in view of Monk (US 7499397), in view of Trans (US 20050186933).

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**Regarding claim 38, 43, 54, 59,** the combination of Lindoff, Lai, and Monk fails to specifically disclose the specific limitation of having the a second transmitter which generate second auxiliary coding. Monk however discloses of transmitting a network ID so that a receiver may determine if the correct transmitting terminal is transmitting (col11 lines 20-33).

In a similar field of endeavor, Trans discloses of a plurality of transmitters which sends a training sequence to a receiver, in which the receiver stores coefficients (parameters) into a internal table for the specific transmitter which is recognized by the transmitted ID (page 45 [0693] and page 46 [0701]-[0711]). It would have thus been obvious to a person skilled in the art at the time the invention was made to incorporate the system of having a receiver communicate with a plurality of transmitters involving the use of transmission identification and different auxiliary coding and identifiers as disclosed by Trans into the method of training a radio receiver as disclosed by Lindoff, Lai, and Monk, in order to effectively train and synchronize a radio receiver to not just a single transmitter, but a plurality of transmitters.

**Regarding claim 44, 60,** the combination of Lindoff, Lai, Monk, and, Trans, more specifically Trans discloses that the first data packet header includes a source address for the first transmitter (source address for a flow, page 55 [0862]) and the first identifier is not the same as the source address for the first transmitter (training sequence being transmitted in a training preamble whereas source address being transmitted in the

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packet header which are modulated differently and thus correlating to first identifier is not the same as the source address)..

7. Claims 39, 40, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindoff (US 6853681), in view of Lai et al. (US2002/0075947), in view of Monk (US 7499397), in view of Trans (US 20050186933), in view of Goslin et al. (US 20020016949).

**Regarding claim 39, 40, 55, 56** the combination of Lindoff, Lai, Monk, and Trans fails to disclose of transmitting the auxiliary coding with a same/different front end as said data packet. Lai however discloses from figure 3 of a transmitter and a receiver system for transmission of data (RF front end for transmitting of data). Goslin further discloses that a communication device incorporates front-end processing components for data transmission (page 2 [0026]). It should thus be obvious to transmit the auxiliary coding with the same/different RF front end as it is well known in the art that transmitters/receivers incorporate RF front ends to transmit data which incorporates training sequences and data packets. It should further be noted that transmitting of auxiliary coding through a specified RF front end is simply a systems parameter of the transmission system and its components.

8. Claims 46, 62, 65, 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindoff (US 6853681), in view of Lai et al. (US2002/0075947), in view of Monk (US 7499397), in view of DeMartin et al. (US 6421527).

**Regarding claims 46, 62, 65, 66,** the combination of Lindoff, Lai, and Monk fails to specifically disclose the first set of one or more parameters is based on moving averages, from past data packets received from the first transmitter. Lai however discloses of C/I and how to transmit a next packet (page 1 [0005] and page 3 [0028]. DeMartin further discloses of a system for dynamic adaptation of wireless communication between a mobile station and a base station (abstract) and further discloses that the receiver recognizes the header code and knows the codec mode to use for the frame and that the equalizer makes a decision as to whether a logic 1 or zero and passes the result to the channel decoder (col4 lines 30-41). DeMartin further discloses that a suitable moving average of the soft-values is a good estimator of the C/I ratio of the channel and that the absolute values of the soft bits for the current frame are averaged together and the resulting value is then fed to a moving average filter and that the filter averages over 40 frames. The output of the filter, called average value, is then used to estimate the current C/I value and consequently the most suitable mode to be used (concept of having values (values to determine suitable mode) based on a moving average (average value) of past frames received from said transmitting device, col4 lines 49-col5 lines 11). It would have thus been obvious to a person skilled in the art to incorporate the concept of having values be based on a moving average of past frames received from said transmitting device as disclosed by DeMartin into the method of training a radio receiver as disclosed by Lindoff, Lai, and Mink, in order to efficiently determine how to train a radio receiver.

***Response to Arguments***

9. Applicant's arguments with respect to claims 33-68 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGUYEN NGO whose telephone number is (571)272-8398. The examiner can normally be reached on Monday-Friday 7am - 3:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571)272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. N./

Examiner, Art Unit 2473

/KWANG B. YAO/

Supervisory Patent Examiner, Art Unit 2473